Notice of Allowability	Application No.	Applicant(s)	
	10/645,870	UDA, TETSUYA	
	Examiner	Art Unit	
	Omar Rojas	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *telephone interview conducted on December 5, 2005*.

2. ☒ The allowed claim(s) is/are *1,5,13,14, and 16*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *1205*.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Sung Pak
Primary Examiner
Art 2874

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Keith George on December 5, 2005.

The application has been amended as follows:

IN THE CLAIMS:

Cancel claims 12 and 15.

Claim 5 is amended as follows:

5. (Currently amended) An optical transmission apparatus for transmitting a wavelength-division multiplexed light from a first optical transmission line to a second optical transmission line, comprising:

an optical amplifier for amplifying said wavelength-division multiplexed light received from said first optical transmission line;

a first chromatic dispersion compensator for compensating for chromatic dispersion caused during the time in which said wavelength-division multiplexed light produced from said optical amplifier is transmitted from a first predetermined position on said first optical transmission line to said optical transmission apparatus;

an add drop portion a~~n optical signal of a predetermined band from said~~ for dropping an optical signal of a predetermined band from said wavelength-division multiplexed signal

produced from said first chromatic dispersion compensator, and for multiplexing an optical signal of a certain band with said wavelength-division multiplexed light from which said optical signal of said predetermined band has been dropped;

a second chromatic dispersion compensator for compensating for chromatic dispersion caused during the time in which said wavelength-division multiplexed light produced from said add drop portion is transmitted between said optical transmission apparatus and a second predetermined position on said second optical transmission line;

a gain tilt compensator for compensating for the gain tilt between the wavelength of the output signal from said optical amplifier;

an optical power detector for detecting an optical power of said wavelength division multiplexed light fed to said optical amplifier;

means for extracting information as to number of wavelengths multiplexed in the wavelength-division multiplexed light received at the optical amplifier, from an optical supervisory channel signal included in said received wavelength-division multiplexed light; and

a controller for controlling said gain tilt compensator according to said extracted wavelength multiplex number information, an optical power detected by said optical power detector, and pre-stored gain tilt characteristics of said optical amplifier.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: The primary reason for allowance of claims 1 and 13 is the inclusion of the recited controller for controlling the first and second optical amplifier using the recited subtraction step. This type of controller in combination with the other recited features of claim 1 is considered to patentably distinguish claims 1 and 13 over the prior art of record. The primary reason for allowance of claims 5 and 14 is the inclusion of a controller for controlling a gain tilt compensator according to extracted wavelength multiplex number information, an optical power detected by said optical power detector, and pre-stored gain tilt characteristics of the optical amplifier. This type of controller in combination with the other recited features of claim 5 is considered to patentably distinguish claims 5 and 14 over the prior art of record. The primary reason for allowance of claim 16 is the inclusion of a controller that controls a gain tilt compensator using extracted wavelength multiplex number information, a detected optical power of the wavelength-division multiplexed light fed to the add drop portion, and the detected optical power of the dropped signal. This type of controller in combination with the other recited features of claim 16 is considered to patentably distinguish claim 16 over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. United States Patent No. 6,577,438 B2 to Sugawara et al., cited on an attached form PTO-892, does teach a controller (i.e., reference number 450) which controls a gain-tilt compensator 400. However, the controller in the Sugawara patent does not appear to use wavelength multiplex number information as suggested by the independent claims 1, 5, and 16 of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Omar Rojas
Patent Examiner
Art Unit 2874

or

Sung Pak
primary Examiner
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December 8, 2005